

# **MULTI-FUNCTION GOLF TRAINING DEVICE**

## **BACKGROUND OF THE INVENTION**

### **1. Field of the Invention**

The present invention relates to a golf training device, and more particular to a multi-function golf training device for training putting and approaching skill.

### **2. Description of the Related Art**

A prior art with the application number US 10/420821 is a prior art of present inventor applied. In this prior art disclosed that three automatically elevating assemblies provided on the bottom of the base member and these three automatically elevating assemblies can define a plate and can be adjusted by a controller or by programming to make the putting green change the sloping degree. By the way, this will make the training more fun and challenge. Also the user can adjust the sloping degree of the putting green to special degree for particular purpose.

But, even the prior art had been disclosed the excellent structures. The coast of the production is still too high however and makes this invention not popular.

## **SUMMARY OF THE INVENTION**

The primary objective of the present invention is to provide a golf training device, which can adjust up or down or the sloping degree of the putting green easily and reduce the coast of the production.

According to the objective of the present invention, a golf training device comprise a base member, at least three elevating assemblies provide on the base member and each of the elevating assemblies has a elevating part that can be forced up or down by external power, a putting green board pivots on those elevating parts of those elevating assemblies and the sloping degree of the putting green can be adjusted

by moving these elevating parts, the putting green includes a ball cavity for the golf ball and the out side of the base member includes a wall around and a vent, the base member has a recess for the ball cavity of the putting green, a ball trench arrays on the base member and beside the putting green and a guide way connects the ball trench and the recess.

## **BRIEF DESCRIPTION OF THE DRAWINGS**

FIG. 1 is a perspective view of the first preferred embodiment of the present invention;

FIG. 2 is a top view of FIG. 1 without the divot;

FIG. 3 is a top view of FIG. 2 without the putting green board;

FIG. 4 is a sectional view along the 4-4 line in FIG. 2 shows the putting green board in the horizontal posture;

FIG. 5 is a sectional view as FIG. 4 shows the putting green board in the lowest position of the horizontal posture;

FIG. 6 is a sectional view as FIG. 4 shows the putting green board in the upward posture;

FIG. 7 is a sectional view as FIG. 4 shows the putting green board in the downward posture;

FIG. 8 is a sectional view along the 8-8 line in FIG. 2 shows two elevating assemblers in the lowest position of the horizontal posture;

FIG. 9 is view as FIG. 8 shows the putting green board is inclined to the left side;

FIG. 10 is view as FIG. 8 shows the putting green board is inclined to the right side;

FIG. 11 is a perspective view of the artificial elevating assembler structures

of the first preferred embodiment of the present invention shows in the highest position;

FIG. 12 is a sectional view along the 12-12 line in FIG. 11;

FIG. 13 is a view as FIG. 11 shows the artificial elevating assembler in the lowest position;

FIG. 14 is a sectional view along the 14-14 line in FIG. 13;

FIG. 15 is a sectional view along the 15-15 line in FIG. 11;

FIG. 16 is a top view of the automatically elevating assembler structures of the first preferred embodiment of the present invention;

FIG. 17 is a side view of the automatically elevating assembler structures shows in the lowest position;

FIG. 18 is a view as FIG. 17 shows in the highest position;

FIG. 19 is another side view of the automatically elevating assembler structures shows in the lowest position;

FIG. 20 is another side view of the automatically elevating assembler structures shows in the highest position;

FIG. 21 and FIG. 22 are the section view of the second embodiment of present invention;

## **DETAILED DESCRIPTION OF THE INVENTION**

As shown from FIG. 1 to FIG. 4, a golf training device of the first preferred embodiment of the present invention comprises:

A base member 10 in orthogonal shape has a wall 11 around in three sides and a vent 12 at one side and an L shape ball trench 13 arrays beside the wall 11 form the vent 12. Said base member 10 has a recess 14 in the center area and connects with the ball trench 13 by a guide way 15.

There are three elevating assemblers nonlinearity provided on said base

member 10. There are an artificial elevating assembler 20 and two automatically elevating assemblers 30 in the first embodiment of present invention and each elevating assembler has a elevating part 25 32 that can be forced up or down by external power. These structures and actions will be discussed hereafter.

A putting green board 50 pivots on those elevating parts 25 32 of those elevating assemblies and the sloping degree and direction can adjust by move those elevating parts up or down. Said putting green board includes a ball cavity 51 for the recess 14 of the base member.

An elongated alley 60 sets on the putting green board 50 and has a hole 61 for the ball cavity 51.

A control device 70 that is a set of circuitry provides on the base member 10 to control those automatically elevating assemblers.

A microswitch 80 sets in the guide way 15. Said microswitch will give a signal to the control device 70 for counting the point when the golf ball runs over it.

The FIG. 4 shows the device of the first embodiment of present invention in the highest position of the horizontal posture.

The FIG. 5 shows the device of the first embodiment of present invention in the lowest position of the horizontal posture.

The FIG. 6 shows the artificial elevating assembler 20 in the highest position and the automatically elevating assembler 30 in the lowest position. The putting green board is inclined downwardly from the back to the vent 12 for the upward putting practice.

The FIG. 7 shows the artificial elevating assembler 20 in the lowest position and the automatically elevating assembler 30 in the highest position. The putting green board is inclined downwardly from the vent 12 to the back for downward putting practice.

FIG. 8 shows the automatically elevating assemblers 30 are all in the lowest position and the putting green board is in the horizontal posture.

FIG. 9 shows the automatically elevating assemblers 30 at the left side is in the lowest position and the automatically elevating assemblers 30 at the right side is in the highest position and the putting green board 50 is inclined to the left side.

FIG. 10 shows the automatically elevating assemblers 30 at the left side is in the highest position and the automatically elevating assemblers 30 at the right side is in the lowest position and the putting green board 50 is inclined to the right side.

These two automatically elevating assemblers 30 can control the sloping degree and direction of the putting green board 50 and the degree and direction can be changed into many different practice types by suing the artificial elevating assembler 20 moreover.

As shown from FIG. 11 to FIG. 15, is the artificial elevating assembler 20 of the first embodiment of present invention including:

A shell 21 provided on the base member 10 in one end by studs 22 and a long chase 23 provided downward on the shell from the top. There are many annular flutings 24 provided on the inside wall of the meta-long chase 23.

An elevating part 25 has two flexible arms 26 and receives in the long chase 23 for portion. Said elevating part is slidable and positionable by the flexible arms 26 and the fluting 24. The fore part of the shell 21 has two limitative parts 27 that are two long holes. Said elevating part 25 has two tappets 28 which receive in the long hole 27 to make an uppermost stop position and a nethermost stop position for the elevating part 25.

A connector 29 goes through a hole that pre-set on the putting green board and fixes on the top of the elevating part 25.

FIG. 11 and FIG. 12 show the elevating part 25 is in the uppermost stop

position.

FIG. 13 and FIG. 14 show the elevating part 25 is in the nethermost stop position.

As shown from FIG. 16 to FIG. 20, is the automatically elevating assembler 30 of the first embodiment of present invention including:

A shell 31;

An elevating part 32 in tube shape provided on the shell 31 and a rib 33 provided on the outside of the elevating part 32 in order to avoid the elevating part rotating and a thread on the inside wall of the elevating part 32.

A pivot 35 with thread 36 on the inside wall and screw the thread on the inside wall of the elevating part 32 pivots in the shell 31.

A motor 37 has an endless crew 38 for meshing a worm wheel 39 to bring a small gear 41 and a large gear 42 rotating and bring the pivot 35 rotating also.

A rotator 43 fixes on the top of the elevating part 32 by a stud 44.

A receiver 45 fixes on the bottom of the putting green board by studs 46 and holds said rotator 43.

An elastic part 47 provided on aside of the pivot 35 and an umbo 48 provided at the bottom of the pivot 35. Said umbo 48 can press the elastic part 47 to touch a metal point 49 to pass a electric signal for counting the rotation time of the pivot 35 and controlling the height of the elevating part 32.

Additionally, a microswitch 51 provided at the nethermost stop position of said shell 31 as shown in FIG. 16 and FIG. 19 and a press arm 52 provided at the bottom of the elevating part 32. The microswitch 51 will send a signal to stop the motor 37 when the elevating part 32 goes down to the nethermost stop position and make the press arm 52 to touch the microswitch 51. As shown in FIG. 16 and FIG. 20, there is a bearing base 53 provided at the bottom of the elevating part 32 and a

microswitch 54 provided on said bearing base 53 for the uppermost stop position. When the elevating part goes up to the uppermost stop position, the microswitch 54 will touch the outer wall of the shell 31 and send a signal to stop the motor 37. Said two of the switch are safety switches and these switches not always be provided whereas said counting function.

The device as shown in FIG. 21 and FIG. 22 is the second embodiment of present invention and three of the elevating assemblers are all artificial elevating assemblers therein for the user to adjust the sloping degree and direction of the putting green board by hand.